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INCREASE NUMBER OF NEW CALCIFIED LESIONS ON SERIAL NON-ENHANCED CARDIAC COMPUTED TOMOGRAPHY AND RELATION TO ALL-CAUSE MORTALITY

Poster Contributions
Hall C
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Background: There is a strong association between the progression of total coronary calcium score (CACS) and all-cause mortality. However it is unclear the contribution of increase number of calcified lesions on non-enhanced cardiac computed tomography (CCT). We aim to study the relation between increase number of calcified lesions and all-cause mortality.

Methods: We retrospectively identified 4,528 patients (mean age 56.7 ±10.5 years, 72.4% male) who referred for CACS from 1991 to 2011. We examined number of calcified lesions measured by non-enhanced CCT scan at baseline and follow up. Multivariable Cox hazard models analysis was assessed if increasing number of CAC lesions with 1-14, ≥15 is associated with mortality when compared to no new calcified lesions, adjusting for age, gender, race, hypertension, diabetes, hyperlipidemia, smoking, family history of heart disease, baseline CACS , interval time between baseline and follow up scans.

Results: During a mean follow-up of 8.6 ± 3.8 years, 162 individuals (3.58%) died. Increase number of calcified lesions ≥15 was significantly associated with worsen mortality (hazard ratio 2.7, 95% CI 1.3-5.8, p =0.01), while number of calcified lesions with 1-14 was not (hazard ratio 1.1, 95% CI 0.7-2.0, p=0.62).

Conclusions: Increase number of calcified lesions on serial non-enhanced CCT was associated with worse all-cause mortality. Commonly CACS reported as total score only, our study found that reporting number of calcified lesions adds incremental prognostic value to total CAC score.